

IN THE CLAIMS

Please amend claims 1, 7 and 9 by this amendment and newly add claims 19 and 20 as follows:

1 1. (Currently Amended) A system combined with a load sharing structure and a
2 primary/backup structure, the system having a plurality of sub-systems, the system
3 comprising:

4 a primary unit disposed in each of said plurality of sub-systems to share an event
5 processing work load according to a load sharing processing order for events;

6 a backup unit disposed in each of said plurality of sub-systems to receive and store
7 only a minimum amount of data that is necessary for restoration from a primary unit in
8 preparation for when a primary unit malfunctions, each backup unit corresponding to a
9 respective primary unit, each backup unit being adapted to finish processing events already
10 started by a corresponding malfunctioned primary unit;

11 a configuration management unit comprising an index mapping each backup unit with
12 corresponding primary units, the configuration management unit managing a status
13 report/record position of the primary unit for the backup unit;

14 a distributed algorithm processing unit being programmed and configured to
15 determine which sub-system processes events when the events are generated;

16 a shared resource unit shared and used ~~[[in]]~~ by each sub-system and ~~occupied in~~ used
17 by the primary units;

18 an event generating unit being programmed and configured to generate events; and
19 a distributed control environment comprised of a middleware platform and being
20 programmed and configured to ~~distribute processing among the plurality of sub-systems, the~~
21 ~~configuration management unit, the distributed algorithm processing unit, and the shared~~
22 ~~resource unit~~ convey data among the plurality of sub-systems, the configuration management
23 unit and the distributed control environment being configured to designate new events only
24 to non-malfunctioning primary units and not to backup units processing for malfunctioning
25 primary units.

1 2. (Original) The system of claim 1, each backup unit corresponds to a primary unit
2 that is located in a different sub-system than the backup unit.

1 3. (Original) The system of claim 1, the configuration management unit comprising
2 an index for processing load sharing between the primary units and comprising an index
3 mapping each backup unit to a corresponding primary unit stored in the configuration
4 management unit.

1 4. (Original) The system of claim 1, the distributed algorithm processing unit being
2 programmed and configured to assign generated events in a round robin fashion to the
3 primary units.

1 5. (Original) The system of claim 1, the distributed algorithm processing unit being
2 programmed and configured to assign generated events to primary units that are the least
3 congested.

1 6. (Original) The system of claim 1, the distributed algorithm processing unit being
2 programmed and configured to calculate load sharing between the primary units and to assign
3 a newly generated event to a primary unit based on said calculation.

1 7. (Currently Amended) A distributed control system, comprising:
2 a plurality of sub-systems, each sub-system comprising a primary unit and a backup
3 unit, each primary unit being programmed and configured to process generated events;
4 a configuration management unit maintaining an index mapping backup units with
5 corresponding primary units, each backup unit being adapted to complete processing of
6 unfinished events started by a corresponding and malfunctioning primary unit and not to
7 accept new events for processing ~~storing data needed to restore a corresponding primary unit~~
8 ~~should the corresponding primary unit fail to process an event;~~
9 a distributed algorithm processing unit being programmed and configured to assign
10 generated events to a primary unit within a sub-system for processing; and
11 a logical shared resource unit being accessible by each primary unit from each
12 sub-system in the processing of said generated events.

1 8. (Original) The system of claim 7, each backup unit storing a minimum amount of
2 data needed to replicate a corresponding primary unit if the corresponding primary unit fails.

1 9. (Currently Amended) The system of claim 7, the configuration management unit
2 being programmed and configured to manage process load sharing between the sub-systems.

1 10. (Original) The system of claim 7, the distributed algorithm processing unit being
2 programmed and configured to assign generated events to various ones of said plurality of
3 sub-systems in a round robin fashion.

1 11. (Original) The system of claim 7, the distributed algorithm processing unit being
2 programmed and configured to assign newly generated events to a least congested
3 sub-system for processing.

1 12. (Original) The system of claim 7, the configuration management unit and the
2 distributed algorithm processing unit being programmed and configured to assign events
3 only to functioning primary units and not to backup units.

1 13. (Original) The system of claim 7, the configuration management unit and the
2 distributed algorithm processing unit are programmed and configured so that backup units
3 do not participate in load sharing.

1 14. (Original) The system of claim 8, said backup units storing only an index of
2 events, an ongoing status of the corresponding primary unit and information as to which
3 resources are occupied.

1 15. (Original) The system of claim 7, each backup unit serves to duplicate a primary
2 unit located in a different sub-system than the backup unit.

1 16. (Original) The system of claim 7, the component management unit and the
2 distributed algorithm processing unit are programmed and configured to assign newly
3 generated events to a primary unit in a sub-system that is least congested.

1 17. (Original) The system of claim 7, the configuration management unit being
2 programmed and configured to generate a new primary unit and a new backup unit when a
3 new sub-system is added to the system.

1 18. (Original) The system of claim 17, the configuration management unit being
2 programmed and configured to reconfigure which primary units correspond to which backup
3 units when a new sub-system is added to the system and a new primary unit and a new backup
4 unit are generated.

1 19. (New) The system of claim 7, wherein there is a one to one correspondence
2 between primary units and backup units.

1 20. (New) The system of claim 7, the system being configured to load share new
2 events only between functioning primary units and not among functioning backup units
3 processing for malfunctioning primary units,